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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/077,062
Filing Date: February 15, 2002
Appellant(s): WOOD ET AL.

Brian S. Myers
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 20, 2007 appealing from the Office action mailed March 19, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5777720	Shapiro et al.	07-1998
6816158	Lemelson et al.	11-2004
6760020	Uchiyama	07-2004

6108005

Starks et al.

08-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9, 10, 12-14, 16, 17, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,777,720 to Shapiro et al.

[claim 1]

As shown in Figure 7, Shapiro teaches an apparatus for producing a stereoscopic image. The display means is an auto-stereoscopic display which provides sub-images, right eye and left eye images (Col 2 lines 15-36). These images are spaced from one another at a first distance along an x-axis and a second distance along a Z-axis so as to render the stereoscopic image (Col 3 Lines 30-38, Col 4 Lines 18-41, and Col 5 Lines 30-38).

A single user control (camera (37) and image analyzer (38) of Figure 7) is provided by Shapiro for adjusting the first and second distances of the stereoscopic image displayed by the display means (Col 10 Lines 28-47 and Lines 59-65, Col 11 Lines 5-61, and Col 12 Lines 2-20, Figs 10, 11a-11d, 12a-b). Note, Figures 12a-b show a modification of the apparatus of Figure 7 with a specific example of adjusting the

display to correspond to a distance between eyes of a user (Col 11 Lines 11-22, Lines 33-37 and Lines 50-61).

[claim 2]

Shapiro teaches the use of the adjusting for multiple types of auto-stereoscopic displays (Figs 13-20). One such display is an LCD with a lenticular screen (Col 13 Lines 30-38, Fig. 20).

[claim 3]

Shapiro further teaches the apparatus according to claim 1, wherein said single user control is further configured to adjust the stereoscopic image based on a user distance from the display means (Col 10 Lines 59-65 and Col 12 Lines 2-20)

[claims 9 and 10]

Shapiro teaches the importance of adjusting the two variables in order for people, who do not meet the average observer parameters, may perceive the three-dimensional effect of 3D displays (Col 2 Lines 1-10). Shapiro further teaches the first parameter is for changes in the X direction, which has been shown to adjust for interocular distance, allowing for perceived depth. The second parameter is for the Z direction which relates to viewing distance (Col 10 Lines 59-65).

[claim 12]

Shapiro teaches the use of the adjusting for multiple types of auto-stereoscopic displays (Figs 13-20). One such display is an LCD with a lenticular screen (Col 13 Lines 30-38, Fig. 20).

[claim 13]

As shown above for claim 1, Shapiro teaches the apparatus of Figure 7. Shapiro further teaches the method for using the apparatus of Figure 7 (Col 10 Lines 28-47 and Lines 59-65). A single user control (camera (37) and image analyzer (38) of Figure 7) controls the first and second distances so that the first distance of the stereoscopic image is adjusted to correspond to a distance between eyes of a user (Col 10 Lines 28-47 and Lines 59-65, Col 11 Lines 5-61, and Col 12 Lines 2-20, Figs 10, 11a-11d, 12a-b). Note, Figures 12a-b show a modification of the apparatus of Figure 7 with a specific example of adjusting the display to correspond to a distance between eyes of a user (Col 11 Lines 11-22, Lines 33-37 and Lines 50-61).

[claim 14]

Shapiro teaches the use of the adjusting for multiple types of auto-stereoscopic displays (Figs 13-20). One such display is an LCD with a lenticular screen (Col 13 Lines 30-38, Fig. 20).

[claims 16 and 17]

Shapiro teaches the importance of adjusting the two variables in order for people, who do not meet the average observer parameters, may perceive the three-dimensional effect of 3D displays (Col 2 Lines 1-10). Shapiro further teaches the first parameter is for changes in the X direction, which has been shown to adjust for interocular distance, allowing for perceived depth. The second parameter is for the Z direction which relates to viewing distance (Col 10 Lines 59-65).

[claim 20]

As shown above, Shapiro teaches the apparatus of claim 1 and the method of claim 13. Shapiro further teaches the adjustment is further based on a user distance from the display means (Col 10 Lines 59-65, Col 12 Lines 2-20, Fig. 10).

[claim 22]

As shown above for claims 1 and 2, Shapiro teaches the apparatus for producing a stereoscopic image (Figure 7). The apparatus includes a plurality of columns and rows of display elements configured to display a stereoscopic image (Col 13 Lines 29-38, Fig. 20). The apparatus further includes a plurality of lenticules configured to deflect the stereoscopic image and overlaying the display elements, the plurality of lenticules having respective parallel axes extending transversely to the plurality of columns and rows of the display elements (Col 13 Lines 29-38, Fig. 20).

Shapiro further teaches a user controller for adjusting two stereoscopic parameters of the stereoscopic image displayed by the display elements (Col 3 Lines 30-38, Col 4 Lines 18-41, Col 5 Lines 30-38, Col 10 Lines 59-65, Col 12 Lines 2-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro.

[claim 18]

As shown above for claims 1 and 13, Shapiro teaches the apparatus and method for stereoscopic display. The apparatus includes an Image analyzer (38) and a controller (16) which performs the method of Figure 9. Though Shapiro does not specifically teach the use of a program, it would have been obvious to one of ordinary skill in the art at the time of the invention that the processors would require a program to run the method (Official Notice).

Claims 5, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro in view of US Patent 6,816,158 to Lemelson et al.

[claim 5]

As shown in Figure 7, Shapiro teaches the single user control is a camera (37) and image analyzer (38) which obtains images and adapts the display based on the users position and interpupillary distance (Col 10 Lines 28-47). Shapiro does not teach a physical user control such as a knob.

Lemelson teaches an apparatus for producing a stereoscopic image comprising display means (10) for displaying an image and user control means (Fig. 11) for controlling two stereoscopic parameters (shifting and width) of the image displayed by the display means (Fig. 1, Col 7 Line 48-Col 8 Line 17); said user control means being a single control (joystick) (Col 10 Lines 26-40). Note, Lemelson specifically teaches an example of simultaneous control, where in the viewer uses the joystick to move left and back (Col 10 Lines 36-40). As shown in Figure 11, Lemelson teaches the use of a joystick (146) for use as the control means, which is functionally equivalent to a knob (Col 4 Lines 21-24 and Col 10 Lines 20-40). It would have been obvious to one of

ordinary skill in the art at the time of the invention to use the manual controls of Lemelson with the stereoscopic display of Shapiro in order to allow the user to determine the desired display configuration as taught by Lemelson.

[claim 7]

Lemelson further teaches a remote device (8 of Fig. 1) communicating with said user control means (Fig. 11) (Col 8 Lines 18-54 and Col 10 Lines 20-40). As shown above for claim 5, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the manual controls of Lemelson with the stereoscopic display of Shapiro in order to allow the user to determine the desired display configuration as taught by Lemelson.

[claim 11]

Shapiro teaches the ability to adjust the display within the parameters of the system (Col 12 Lines 9-19). Shapiro is silent on the user control being at a minimum the perceived depth of the image is at a minimum and as said single user control moves from a minimum to a maximum the perceived depth of the image increases. As shown in Figure 11, the control allows for a forward and backwards movement (depth). The movement is further controlled by a LUT (Col 9 Lines 30-31 and Lines 62-63). Lemelson further teaches the limit of the width based on the lenticular screen (Col 8 Lines 12-17). Note, the use of the LUT provides a minimum and maximum value for the depth.

As shown above for claim 5, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the manual controls of Lemelson with the

stereoscopic display of Shapiro in order to allow the user to determine the desired display configuration as taught by Lemelson.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro as applied to claim 1 above, and further in view of US Patent 6,816,158 to Lemelson et al. and US Patent 6,760,020 to Uchiyama.

[claim 6]

Shapiro teaches the apparatus of claim 1. Shapiro and Lemelson further teach the use of a manual control for a user to control the display, as shown above for claim 5. Lemelson teaches the remote control as shown in Figures 11 and 12. Lemelson does not teach the use of a graphical icon. Uchiyama teaches the use of graphical icons to provide a user a visual of the control means (Col 11 Lines 15-29, Fig. 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a graphical icon for the user control in order to provide a visual of the parameters changed as taught by Uchiyama.

(10) Response to Argument

The Appellant's first argument relates to the rejection of claims 1-3, 9, 10, 12-14, 16, 17, 20 and 22 under 35 USC 102(b) as being anticipated by Shapiro.

The Appellant specifically argues:

Appellant's independent claim 1 recites: "a single user control for adjusting the first and second distances of the stereoscopic image displayed by the display means."

Appellant's features provide the advantage of a user control for adjusting the image to the user preference. Thus, a user may adjust the image to the user's preference. Shapiro fails to teach or even suggest such a feature.

As quoted by the Appellant, the claim requires "a single user control for adjusting the first and second distances". This requirement does not require that the user control allow for the adjustment of the image based on a user's preference. Further, the claim is silent on the requirement that the control be a physical control.

The apparatus of Shapiro uses an image of the user to calibrate the system based on the characteristics unique to the user (Col 10 Lines 28-47). Therefore, it is viewed by the Examiner that the apparatus of Shapiro satisfies the broad requirements of claim 1.

The Appellant further argues that Shapiro fails to teach the requirement of a user control based on the description of the apparatus on Column 9 Lines 16-28. Though the rejection is based on the alternative operation of the apparatus using the eyes of the users as shown in the rejection (Col 10 Lines 28-47), the Appellant's argument still fails to overcome the prior art. As stated by the Appellant, "In, Shapiro, if the user moves the sheet 35 to different positions, it is the processor adjusting the x, y, and z directions for 'optimizing' the viewing zone" it is the user who moves the sheet, thus the user is controlling the apparatus.

As shown above, the claim requires a single user control which is satisfied by the imaging means of Shapiro because the apparatus is adjusted based on the user's location and characteristics. The claim does not require that the control be a physical device which the user may use to adjust the apparatus based on a user's preference as the Appellant appears to be arguing.

The Appellant provides the same argument for claims 13 and 22 as provided for claim 1. Therefore, the response is the same for claims 13 and 22 as shown above.

Appellant further argues the additional requirements of claim 22 for the plurality of lenticules. The claim requires, "the plurality of lenticules having respective parallel axes extending transversely to the plurality of columns and rows of the display elements". It is noted by the Examiner that the specification fails to provide a definition for "transversely" and therefore it is assumed to be defined as "lying across" as provided by Webster's Dictionary. As shown in Figure 20, the lenticular screen, which contains several lenticules, overlays the display elements (60). Each lenticule (hump on the Lenticular screen) covers multiple rows and columns of the display as shown by the lenticule covering a black and white strip of the screen (60). Therefore, it is viewed by the Examiner that the Lenticules are positioned across the plurality of columns and rows of the display. Appellant's arguments related to claims 2 and 14, are the same as above and therefore are responded to. Appellant's argument for claims 3, 9, 10, 12, 16, 17, and 20 are based on their dependents on independent claims 1 and 13. Thus the arguments have been responded to.

The Appellant argues the rejection of claim 18 based on Shapiro failing to teach the features of independent claim 13. As shown above, Shapiro satisfies the requirements of the broad limitations of claim 13. The Appellant further argues the use of "Official Notice" for teaching the use of a program for performing the method of Shapiro. It is noted by the Examiner that the "Official Notice" was used in the rejection of claim 18 in the Non-Final Rejection mailed October 2, 2006 and was not traversed in

the Amendment received on December 29, 2006. Thus the common knowledge or well-known in the art statement should be taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. In order to solidify the fact that it is well known in the art to provide a program to perform a method, US Patent 6,108,005 to Starks et al. teaches a method for producing stereoscopic images wherein a program is used to control a processor in order to perform a method (Col 14 Lines 22-33).

With respect to the arguments related to claims 5, 7, and 11, the Appellant's arguments depend on the above responded to arguments for claim 1. Shapiro has been shown to teach the broad requirements of claim 1. Further, the rejection for claims 5, 7 and 11 show a reason to combine the teachings of Shapiro and Lemelson. Therefore it is viewed by the Examiner that Shapiro and Lemelson satisfy the requirements of claims 5, 7 and 11.

The Appellant's arguments for claim 6 depend on the arguments for claim 1. As Shapiro has been shown above to teach the requirements of claim 1 and no further arguments are provided, it is viewed by the Examiner that the combination of Shapiro, Lemelson and Uchiyama satisfy the requirements of claim 6.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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10/077,062
Art Unit: 2621

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Erick Rekstad

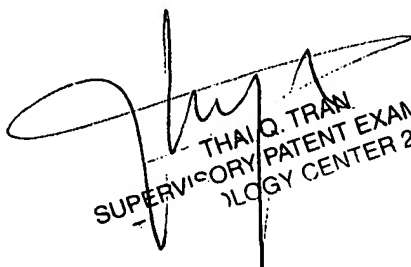


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[claim 2]

Shapiro teaches the use of the adjusting for multiple types of auto-stereoscopic displays (Figs 13-20). One such display is an LCD with a lenticular screen (Col 13 Lines 30-38, Fig. 20).

[claim 3]

Shapiro further teaches the apparatus according to claim 1, wherein said single user control is further configured to adjust the stereoscopic image based on a user distance from the display means (Col 10 Lines 59-65 and Col 12 Lines 2-20)

[claims 9 and 10]

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[claim 20]

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[claim 22]

As shown above for claims 1 and 2, Shapiro teaches the apparatus for producing a stereoscopic image (Figure 7). The apparatus includes a plurality of columns and rows of display elements configured to display a stereoscopic image (Col 13 Lines 29-38, Fig. 20). The apparatus further includes a plurality of lenticules configured to deflect the stereoscopic image and overlaying the display elements, the plurality of lenticules having respective parallel axes extending transversely to the plurality of columns and rows of the display elements (Col 13 Lines 29-38, Fig. 20).

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Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro.

[claim 18]

As shown above for claims 1 and 13, Shapiro teaches the apparatus and method for stereoscopic display. The apparatus includes an Image analyzer (38) and a controller (16) which performs the method of Figure 9. Though Shapiro does not specifically teach the use of a program, it would have been obvious to one of ordinary skill in the art at the time of the invention that the processors would require a program to run the method (Official Notice).

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[claim 5]

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ordinary skill in the art at the time of the invention to use the manual controls of Lemelson with the stereoscopic display of Shapiro in order to allow the user to determine the desired display configuration as taught by Lemelson.

[claim 7]

Lemelson further teaches a remote device (8 of Fig. 1) communicating with said user control means (Fig. 11) (Col 8 Lines 18-54 and Col 10 Lines 20-40). As shown above for claim 5, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the manual controls of Lemelson with the stereoscopic display of Shapiro in order to allow the user to determine the desired display configuration as taught by Lemelson.

[claim 11]

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro as applied to claim 1 above, and further in view of US Patent 6,816,158 to Lemelson et al. and US Patent 6,760,020 to Uchiyama.

[claim 6]

Shapiro teaches the apparatus of claim 1. Shapiro and Lemelson further teach the use of a manual control for a user to control the display, as shown above for claim 5. Lemelson teaches the remote control as shown in Figures 11 and 12. Lemelson does not teach the use of a graphical icon. Uchiyama teaches the use of graphical icons to provide a user a visual of the control means (Col 11 Lines 15-29, Fig. 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a graphical icon for the user control in order to provide a visual of the parameters changed as taught by Uchiyama.

(10) Response to Argument

The Appellant's first argument relates to the rejection of claims 1-3, 9, 10, 12-14, 16, 17, 20 and 22 under 35 USC 102(b) as being anticipated by Shapiro.

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As shown above, the claim requires a single user control which is satisfied by the imaging means of Shapiro because the apparatus is adjusted based on the user's location and characteristics. The claim does not require that the control be a physical device which the user may use to adjust the apparatus based on a user's preference as the Appellant appears to be arguing.

The Appellant provides the same argument for claims 13 and 22 as provided for claim 1. Therefore, the response is the same for claims 13 and 22 as shown above.

Appellant further argues the additional requirements of claim 22 for the plurality of lenticules. The claim requires, "the plurality of lenticules having respective parallel axes extending transversely to the plurality of columns and rows of the display elements". It is noted by the Examiner that the specification fails to provide a definition for "transversely" and therefore it is assumed to be defined as "lying across" as provided by Webster's Dictionary. As shown in Figure 20, the lenticular screen, which contains several lenticules, overlays the display elements (60). Each lenticule (hump on the Lenticular screen) covers multiple rows and columns of the display as shown by the lenticule covering a black and white strip of the screen (60). Therefore, it is viewed by the Examiner that the Lenticules are positioned across the plurality of columns and rows of the display. Appellant's arguments related to claims 2 and 14, are the same as above and therefore are responded to. Appellant's argument for claims 3, 9, 10, 12, 16, 17, and 20 are based on their dependents on independent claims 1 and 13. Thus the arguments have been responded to.

The Appellant argues the rejection of claim 18 based on Shapiro failing to teach the features of independent claim 13. As shown above, Shapiro satisfies the requirements of the broad limitations of claim 13. The Appellant further argues the use of "Official Notice" for teaching the use of a program for performing the method of Shapiro. It is noted by the Examiner that the "Official Notice" was used in the rejection of claim 18 in the Non-Final Rejection mailed October 2, 2006 and was not traversed in

the Amendment received on December 29, 2006. Thus the common knowledge or well-known in the art statement should be taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. In order to solidify the fact that it is well known in the art to provide a program to perform a method, US Patent 6,108,005 to Starks et al. teaches a method for producing stereoscopic images wherein a program is used to control a processor in order to perform a method (Col 14 Lines 22-33).

With respect to the arguments related to claims 5, 7, and 11, the Appellant's arguments depend on the above responded to arguments for claim 1. Shapiro has been shown to teach the broad requirements of claim 1. Further, the rejection for claims 5, 7 and 11 show a reason to combine the teachings of Shapiro and Lemelson. Therefore it is viewed by the Examiner that Shapiro and Lemelson satisfy the requirements of claims 5, 7 and 11.

The Appellant's arguments for claim 6 depend on the arguments for claim 1. As Shapiro has been shown above to teach the requirements of claim 1 and no further arguments are provided, it is viewed by the Examiner that the combination of Shapiro, Lemelson and Uchiyama satisfy the requirements of claim 6.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

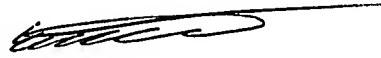
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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Erick Rekstad

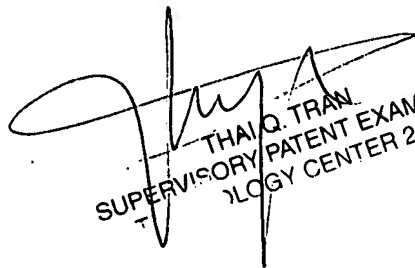


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